Statistics SEMINAR

Title: **Quantification of Colocalization in Dual-Channel Fluorescence Microscopy: A Statistical Perspective**

Speaker:

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Time & Place:

Wednesday, December 6, 2017
4pm, Room 133 SMI
Cookies & Coffee @ 3:30, Rm 1210 MSC

Abstract: Thanks to the rapid evolution of fluorescence microscopy, we now have the opportunities to see the dynamic world within tissues, cells, proteins and other micro structures. This has been transforming modern scientific thinking. Driven by the ever-increasing size and complexity of microscopy imaging data, and the need for reproducible research, computational analysis of microscopic images, and more broadly bioimage informatics, has become an indispensable tool in modern scientific research. However, existing techniques in this field are still nascent and significant amount of fundamental challenges remain to be tackled. In particularly, I will focus on colocalization analysis in this talk. Colocalization analysis is a powerful tool to study the associations/interactions between two bio-molecules such as proteins via imaging techniques. Despite a diversity of analysis tools that have been developed for colocalization, most of which have notoriously been subject to misinterpretation and inconsistencies due to difficulties in robust quantification and spatial inference. In this talk, I will share some of our efforts to improve colocalization analysis using statistical and computation tools.